

Geography for a Positive-Sum World

Human and physical geographers have long occupied different intellectual worlds despite the best efforts of AAG Presidents and others to urge common cause. The state of the world itself may be providing the opportunity for a re-engagement of the two sides to the field. Rarely these days does an issue of *Science* appear without at least one article or report containing some reference to human-induced changes in relation to climate, vegetation, or the physical landscape. One recent article (Barnett et al., *Science* 319, 22 February 2008) estimates that fully sixty percent of climate-related contributions to the changing hydrology of the western United States is owed to human actions of one sort or another.

It is a commonplace that humanity as a whole has lived in a positive-sum world for the past several hundred years. This is one in which large numbers of people can and have become better off. How many and which has mainly been a question of institutional arrangements much more than of physical resource limitations. The costs and benefits of the creative destruction caused by global capitalism has hitherto been largely limited to who gets what, where, as a result of which technologies. If one of the big questions in political economy has long been whether or not real incomes can rise indefinitely, the other has been who has received the growth in incomes and where. Now we are collectively faced with an additional calculus in which the very "nature" upon which we have built economic growth is under severe stress, not in the sense of Malthusian physical limits to population growth but in the sense of generating complex physical feedback effects that challenge the economic growth mantras that take natural processes (essentially "free" water and air, for example) for granted. Our cornucopia looks increasingly in danger of withering in the negative-sum world which may well be in the offing. In such a world, the gains of some will come

increasingly at the expense of others, economically and environmentally.

Two crucial issues in this context face us particularly as geographers (and citizens) if a positive-sum world is not going to be solely a thing of the past. One is to gain some better understanding, and quickly, of precisely how humans are affecting the "physical" environment and what the consequences are likely to be for different groups of people living in different places. The second crucial issue, it seems to me, is nothing less than a re-evaluation of the dynamics of global economic development. According to Angus Maddison (*Contours of the World Economy, 1-2030 AD*, Oxford University Press, 2007), humanity's average real income per capita grew ten-fold between 1820 and 2005. This figure masks the fact that the increase was 23-fold in the U.S. but only four-fold in Africa. At the same time, the world's population increased six-fold overall. But how sustainable is this astonishing velocity of economic growth when, for example, the entire planet begins to emit CO₂ at the same rate as the U.S. does today?

To balance global economic growth – witness the rapid growth of China and India – will require dramatically increased environmental damage absent rapid decreases in air and water pollution in places with already very high levels of economic development. The U.S. government's failure to ratify the Kyoto Agreement reflects in part a decision not to engage in this trade off. The hope is that "technology" will come to the rescue. Of course, politicians everywhere compete by promising "more." So the present impasse is no surprise. As a result, though, perhaps the greatest intellectual and political challenge of this century will be how to go about managing and distributing the fruits of economic growth worldwide without

the entire world economy collapsing around us in environmental ruin.

This is where the work of geographers can show both the range of sustainable growth options available in different places and the likely dangers of continuing with business-as-usual – the geopolitics of resource wars, the zero-sum economic geography of competitive plunder, and the geodemography

of human disease and longevity, among others. By way of example, my UCLA colleague, Laurence Smith, is working on the complex interplay of physical and geopolitical factors threatening the fragile biome of the contemporary Arctic; Philippe Le Billon, of the University of British Columbia, has an ambitious program of research on the geopolitics of resource wars;

and numerous scholars in political ecology are exploring the intersections between the world economy and tropical deforestation.

Tackling the environmental challenges thrown up by the world economy, through identifying new institutional arrangements relevant to what are really global or pan-regional and not national problems, and by investigating policies that, for example, tie together higher incomes with higher payments for abating the costs of pollution, should be the ultimate prize that we have in mind. The changing world may be giving us the intellectual glue for the field that exhortation and pointing to historical precedent has failed to provide. Colleagues up and down the hall may be seen conversing for the first time ever about common research problems and varied approaches to understanding and resolving them. Some outside the tribe may now also finally begin to figure out part of what we are about – beyond a simple-minded environmental determinism.



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